Enzybiotics : antibiotic enzymes as drugs and therapeutics / edited by Tomas G. Villa and Patricia Veiga Crespo

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Abstrak

The book starts with four chapters in which the potential, advantages, and phylogeny of enzybiotics are reviewed. Then, the new ways of controlling infections by Gramnegative bacteria and an updated view of bacteriophage holins are presented. After a review of antistaphylococcal lytic enzymes, the book goes on to discuss membrane targeted enzybiotics, as well as the design of phage cocktails for current therapy. Finally, the last two chapters deal respectively with the novel methods to identify new enzybiotics and the use of modified phages to induce suicide in bacteria.
Enzybiotics is a promising way of fighting bacterial or fungal infectious diseases by using viruses or viral-derived lysins. Drawing from the fields of medicinal chemistry, microbiology, genetics, and biochemistry, this book presents the state of the science in enzybiotics research, fully exploring its emerging therapeutic applications.
The book begins with four chapters that review the potential applications, possible advantages, and phylogeny of enzybiotics. Next, the book explores :
- A new approach to controlling infections using Gram-negative bacteria
- Bacteriophage holins and their membrane-disrupting activity
- Anti-staphylococcal lytic enzymes
- Membrane-targeted enzybiotics
- Design of phage cocktails for therapy from a host-range point of view
- Novel methods to identify new enzybiotics
- Genetically modified phages that deliver suicidal genes to target bacteria
The authors, all active enzybiotics researchers, offer a variety of perspectives, the benefit of their own hands-on investigations, as well as a thorough review and analysis of the current literature.
As more and more bacteria become resistant to antibiotics, the development of new disease-fighting agents has become essential. This book demonstrates the full potential of the emerging field of enzybiotics to control infectious diseases. Moreover, it will serve as a springboard for new research and the development of new therapeutics.